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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,618	09/29/2003	Katsuhisa Yamazaki	02910.000081	6254

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FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

NOTE, JANIS L

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 09/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/671,618	Applicant(s) YAMAZAKI ET AL.	
	Examiner Janis L. Dote	Art Unit 1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/17/03</u> . | 6) <input type="checkbox"/> Other: _____ |

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1. The information disclosure statement (IDS) filed on Nov. 17, 2003, has been considered by the examiner. Applicants' explanations of relevancy for the Japanese references, JP 4-223487, JP 41-210153 B, JP 42-27596 B, and JP 44-6397 B, are found at page 4, lines 3-6, and page 27, lines 25-26, of the instant specification. (Contrary to applicants' statement on the form PTO 1449, applicants did not provide an English-language abstract describing JP 4-223487. Rather, applicants provided a patent family history of said document. The examiner has corrected the form PTO 1449 to reflect this correction.)

2. The disclosure is objected to because of the following informalities:

The use of trademarks, e.g., Henschel mixer [sic: HENSCHEL MIXER] at page 40, lines 15-16, has been noted in this application. The trademarks should be capitalized wherever they appear and be accompanied by the generic terminology. This example is not exhaustive. Applicants should review the entire specification for compliance.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any

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manner which might adversely affect their validity as trademarks.

Appropriate correction is required.

3. The examiner notes that the instant specification at page 16, line 23, to page 17, line 5, discloses that the concentration of surface atoms recited in instant claim 1 is "estimated based on the measured peak strength of each element [as measured by X-ray photoelectron spectroscopy] . . . [f]or calculation of surface atom concentration, the atom concentration of all the metal atoms detected by the above measurement is converted to 100%, and thereafter, the concentration of each metal atom is calculated." In other words, the concentrations of surface atoms recited in instant claim 1 are based on the total number of metal atoms, which include Si, Fe, and Zn, present on the surface of the magnetic iron oxide.

The instant specification at page 16, lines 24-25, also discloses that the "ratio of the respective atoms is calculated from the concentration of atoms." In other words, the Zn/Si, Fe/Si, and Fe/Zn ratios recited in instant claim 1 are based on the number of the respective atoms present on the surface of the magnetic iron oxide.

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If applicants do not agree with the examiner's above interpretations, they should clearly state so, and indicate where in the instant specification there is antecedent basis for their definitions.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35

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U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f), or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-3 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US 6,007,957 (Kobori).

Kobori discloses a magnetic toner comprising a styrene-n-butyl acrylate binder resin and the magnetic iron oxide A. See example 1 at cols. 25-26, and Table 2 at col. 27, example 1. The magnetic iron oxide A comprises 0.6% by weight of Si and 0.6 % by weight of Zn based on the weight of the iron oxide. See Table 1 at col. 24, magnetic oxide A. The amounts of Si and Zn are within the amount ranges recited in instant claims 1-3.

Kobori does not disclose the concentration of Si, Fe, and Zn atoms present or the atomic ratio of Zn/Si, Fe/Si, and Fe/Zn on the outermost surface of the magnetic iron oxide, as recited in instant claim 1.

The instant specification at page 4, lines 15-17, discloses that its magnetic toner provides images with stable image quality and image density after a long-term of use, and that the toner has excellent environmental stability. The instant specification further discloses that when the concentrations of Si and Zn atoms are outside the ranges recited in instant claim 1, the image density is likely to decrease and/or fogging

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is likely to increase. Specification, page 8, lines 10-17, and page 9, lines 2-12. The specification discloses that when the concentration of Fe is less than 70%, the concentration of Zn is less than 1.00%, and the ratio Fe/Si is lower than 3.00, in environments of high humidity and high temperature, the image density decreases on "boot-up." Specification, page 8, lines 17-21, page 9, lines 2-7, and page 10, lines 1-7. When the concentration of Fe is more than 85% and the ratio of Fe/Si is larger than 70.00, the dot reproducibility degrades and scattering of toner on the paper increases. Specification, page 8, line 17, to page 9, line 1, and page 10, lines 8-15. The specification discloses that when the Zn/Si and Fe/Si ratios are outside the ratio ranges recited in instant claim 1, the image density is likely to decrease and fogging is likely to increase. Specification, page 9, lines 16-27, and page 10, line 16, to page 11, line 1.

As discussed above, Kobori's magnetic iron oxide comprises Si and Zn in amounts that meet the amount ranges recited in instant claims 1-3. In addition, when making the magnetic iron oxide, Kobori discloses that "the pH was adjusted in the final state of the oxidization reaction to localize the silicate component and zinc component in the surface of the magnetic iron oxide particles." Col. 22, lines 61-64. Kobori also discloses

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that its magnetic toner can provide high density images with excellent reproducibility. The magnetic toner exhibits stable chargeability and provides images with no fogging after long-term use. The toner also exhibits excellent chargeability and storage properties, even in environments of high humidity.

Col. 5, lines 10-23, and Table 2, example 1. According to Kobori, the magnetic toner in example 1 of Kobori provided images with stable image density in environments of high temperature and high humidity after a long period of time. The magnetic toner in example 1 also provided images with little fogging and very good dot reproducibility in environments of high humidity and high temperature. See Table 2, example 1. Thus, it appears that the magnetic toner in example 1 of Kobori exhibits the properties sought by applicants.

Accordingly, it is reasonable to presume that the magnetic iron oxide present in the magnetic toner in example 1 of Kobori comprises Si, Zn, and Fe atoms in the surface concentrations and atomic ratios recited in instant claim 1. The burden is on applicants to prove otherwise. In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kobori combined with US 5,773,183 (Doujo).

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Kobori discloses a magnetic toner as described in paragraph 7 above, which is incorporated herein by reference.

Kobori does not exemplify a magnetic toner comprising a polyester binder resin as recited in instant claim 4. However, Kobori teaches that the binder resin can equally be a polyester resin. Col. 11, lines 28-29.

Doujo discloses a polyester binder resin having an acid value of 28 mg KOH/g, a hydroxyl value of 40 mg KOH/g, and a particular molecular weight distribution. Col. 16, line 17, to col. 17, line 4, and resin production example 1 at cols 17-18. According to Doujo, a toner comprising such a polyester binder resin exhibits superior low-temperature fixing and high-temperature anti-offset properties. The toner shows superior fixing performance even at halftone image areas. The toner has superior environmental stability. Col. 2, lines 50-64, and Table 3 at col. 3, example 1. Doujo further discloses that the polyester resin may be used as the binder resin in a magnetic toner. Col. 11, lines 7-41.

It would have been obvious for a person having ordinary skill in the art to use the polyester binder resin disclosed by Doujo as the binder resin in the magnetic toner in example 1 of Kobori, because that person would have had a reasonable

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expectation of successfully obtaining a magnetic toner having the properties disclosed by Doujo.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (571) 272-1382. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (571) 272-1385. The central fax phone number is (703) 872-9306.

Any inquiry of papers not received regarding this communication or earlier communications should be directed to Supervisory Application Examiner Ms. Claudia Sullivan, whose telephone number is (571) 272-1052.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JLD

Sep. 2, 2004

Janis L. Dote
JANIS L. DOTE
PRIMARY EXAMINER
GROUP 1700
1700